

CZU: 159.947.3:159.942.5

[https://doi.org/10.59295/sum9\(176\)2024_15](https://doi.org/10.59295/sum9(176)2024_15)

PROCRASTINATION IN PROFESSIONAL PERFORMANCE AMONG ANXIOUS ACTIVE INDIVIDUALS

*Marta-Iuliana VICOL, Cristina-Maria STOICA,
„Petre Andrei” University of Iasi, Romania*

The given article deals with postponing some actions, making decisions that in the future lead to its aggravation. A large number of studies are analyzed on the procrastination of actions by people and what is the cause of these procrastinations, but also what are the consequences. Researchers confirm that self-control and impulsivity are two traits that predict procrastination. It is argued that there is a direct relationship between procrastination and the level of manifestation of anxiety, stress, depression, between procrastination and impulsivity, which are genetically correlated.

In this context, an express study is presented on the issue of postponing actions and the factors that influenced the decision to postpone. The objectives, the methods, the respective dependent and independent variables are described. About 348 people of different ages and social groups participated in the study. The research results are analyzed and the respective conclusions are formulated.

Keywords: *procrastination, procrastination, anxious individuals, impulsivity, self-control.*

PROCRASTINAREA ÎN PERFORMANȚA PROFESIONALĂ PRINTRE INDIVIZI ACTIVI ANXIOȘI

În articolul dat se abordează problema amânării unor acțiuni, luării de decizii care în viitor duc la agravarea acestora. Se analizează un număr mare de studii privind amânarea de către persoane a acțiunilor și care este cauza acestor amânări, dar care sunt și consecințele. Cercetătorii confirmă că autocontrolul și impulsivitatea reprezintă două trăsături care prezic amânarea. Se argumentează existența directă a conexiunii dintre nivelurile de manifestare a anxietății, stresului, depresiei, dintre amânare și impulsivitate care sunt corelate genetic.

În acest context, se prezintă un express-studiu privind problema amânării acțiunilor și factorilor ce au influențat asupra deciziei de amânare. Se descriu obiectivele, metodele, variabilele respective – dependente și independente. În studiu au participat circa 348 de persoane de diferite vârste și grupuri sociale. Se analizează rezultatele cercetării și se formulează concluziile respective.

Cuvinte-cheie: *procrastinare, amânare, indivizi anxioși, impulsivitate, autocontrol.*

Introduction

Procrastination, the voluntary and irrational delay of a necessary action, underlies several social issues (Steel, 2010). In fields ranging from environmental concerns to personal health, we postpone addressing these matters, allowing them to worsen over time (Gallagher, 2008; Sirois, 2007). For instance, at least 80% of U.S. residents have delayed saving for retirement so extensively that they can no longer make up for the lost time spent procrastinating (Byrne, Blake, Cairns, & Dowd, 2006; Venti, 2006). This has been the subject of numerous studies aimed at explaining why people procrastinate and exploring the neural substrates of this process. Specifically, task aversiveness, future incentives, and delays in receiving those incentives have been confirmed as task characteristics that affect procrastination. Self-control and impulsivity have also been identified as two of the key traits predicting procrastination (Zhang, Liu, Feng, 2019).

The literature has established a direct correlation between procrastination and increased levels of anxiety, stress, depression, fatigue, and a significant decrease in satisfaction with various aspects of life, particularly those related to work and income. Physiological and pathological anxiety is associated with a tendency toward procrastination through the unnecessary delay of decisions or actions. Individuals who procrastinate avoid facing potential negative emotions triggered by confronting a particular task that causes them anxiety or negative expectations (failure, criticism, poor performance, etc.). Anxiety is not only a possible cause

of procrastination but also an effect of it, as individuals tend to feel anxiety when they postpone necessary actions or experience a heightened intensity of already existing anxiety.

Gustavson and colleagues reported in 2014 that procrastination and impulsivity are genetically correlated, mainly through genetic influences on goal management, which was later used to explain the genetic correlation between procrastination and executive function skills (Gustavson, Miyake, Hewitt, & Friedman, 2015). Neuroimaging results show that procrastination and impulsivity are associated with the volume of gray matter in the dorsolateral prefrontal cortex (P. Liu & Feng, 2017), a brain region responsible for regulating emotions and cognitive control. Impulsivity may provide little additional variance beyond self-control when predicting procrastination scores (Steel & Klingsieck, 2016), and most of its effect on procrastination may be mediated by self-control (Lee, Kelly, & Edwards, 2006; C. Zhang & Feng, 2018).

Another study demonstrated that by making temptations less attractive through cognitive effort, we can resist temptations and improve our task performance (Leroy, Grégoire, Magen, Gross, & Mikolajczak, 2012a, 2012b). At the neural level, it is well documented that resisting temptations depends on prefrontal regions such as the ventrolateral prefrontal cortex or dorsolateral prefrontal cortex (Camprodon, Martínez-Raga, Alonso-Alonso, Shih, & Pascual-Leone, 2007; Giuliani, Mann, Tomiyama, & Berkman, 2014; Li et al., 2013; Yokum & Stice, 2013). Impulsivity appears to work against self-control efforts by increasing sensitivity to pleasurable distractions (Dawe, Gullo, & Loxton, 2004; Dawe & Loxton, 2004). Individuals with high impulsivity scores showed increased brain activity in the ventral striatum during reward receipt, while self-control sought to reduce brain activity in that specific area (Plichta & Scheres, 2014).

Purpose of the Paper

Procrastination is a phenomenon present in our daily lives, with varying intensity for each of us, yet it is insufficiently studied and often overlooked, both individually and societally. The impact of procrastination is felt personally, but more so professionally, where it can have detrimental effects. Anxiety is a growing phenomenon globally, with numerous factors triggering it. But we can ask, what unwanted and unfavorable phenomena can anxiety lead to? Could procrastination be one of the undesirable effects of anxiety? How can we prevent procrastination and avoid its consequences? To address these questions, we aimed to investigate the correlation between anxiety disorders and procrastination, particularly in active individuals.

General Objective of the Study

The general objective of the study is to observe the possible correlation between procrastination and anxiety in active individuals and the impact on professional performance.

Specific Objectives:

1. Determine the level of correlation between procrastination and anxiety across age groups in active individuals during the study.
2. Determine the level of correlation between procrastination and anxiety based on gender in active individuals during the study.
3. Determine the existence of a correlation between procrastination and professional performance in active individuals.

Research Hypothesis

We hypothesize that the presence of anxiety increases procrastination and decreases professional performance in active individuals.

Research Method

To achieve the proposed objectives, we considered the questionnaire method appropriate for this research. The questionnaires were administered only to active individuals, who were informed in advance about the purpose and duration of the study, as well as the fact that data processing would be exclusively statistical at the sample level. The research took place between December 2023 and April 2024.

Research Variables**Dependent Variables**

The dependent variables in this research are: level of anxiety; degree of procrastination.

Independent Variables

It was observed that both the level of anxiety and the degree of procrastination are influenced by several factors. In this case, we identified the following as independent variables: age; gender; level of education; place of origin; professional occupation.

Extraneous Variables

Since the research was conducted online, we must account for the presence of extraneous variables. To reduce their effect, the questionnaire was administered during the first part of the day. The extraneous variables in this research are: work schedule; level of environmental noise; respondents' level of fatigue.

Measurement Instruments

Two measurement scales were used: one for anxiety and the other for procrastination: the Hamilton Anxiety Rating Scale and an adapted version of the Pure Procrastination Scale (PPS). In addition to these two scales, a set of self-assessment questions was also used.

Sample of Subjects

The research was conducted on a sample of $N = 348$ participants, all over the age of 18. Of the 348 participants, 167 were male (47.99%) and 181 were female (52.01%). The sample was divided into age groups with 10-year intervals, up to the age of retirement, noting that the first age group had an 8-year interval, starting from the age of adulthood (18 years) to 25 years.

Based on the level of education, the sample of subjects was divided into two main categories: those with high school and post-secondary education, and those with university and post-graduate education. The distribution of the sample according to their place of origin was categorized into two groups: urban and rural.

Given the possibility that a person may have multiple professional occupations, we took this into account and provided respondents with the option to select multiple answers in this regard. As a final criterion for distribution, we also considered the marital status of the participants at the time of completing the questionnaires.

Among the study participants, approximately 39% reported clinically significant levels of anxiety, with men reporting clinically significant anxiety levels at around 30%, lower than women, who reported 47%.

In the first three age groups (18-25 years, 26-35 years, 36-45 years), where there were at least 30 respondents, we observed the following incidence of elevated anxiety levels: approximately 50% in the 18-25 age group, about 39% in the 26-35 group, and just under 24% in the 36-45 group. This shows a decrease in the incidence of anxiety as age increases.

Regarding education levels, the incidence of clinically significant anxiety is nearly the same, with about 41% among those with secondary education (high school and post-secondary) and just under 39% for those with higher education (university and post-graduate). Respondents from urban areas reported clinically significant anxiety levels in just under 40% of cases, slightly higher than those from rural areas, who reported just over 35%.

In terms of professional occupation, students and individuals over 18 still in school reported clinically significant levels of anxiety at approximately 42%. Public sector employees reported anxiety levels of under 31%, private sector employees over 40%, entrepreneurs under 35%, and freelancers under 38%.

Unmarried individuals reported clinically significant anxiety at just under 45%, which is higher than both married individuals, who reported anxiety at under 30%, and divorced individuals, at under 19%.

Regarding gender and age, men in the 18-25 age group reported clinically significant anxiety levels at under 38%, those aged 26-35 at just over 33%, and those aged 36-45 at under 18%. Among women, those aged 18-25 reported anxiety levels of over 66%, those aged 26-35 around 43%, and those aged 36-45 under 29%.

When it comes to education, men with secondary education reported clinically significant anxiety levels at approximately 35%, while those with higher education reported levels under 30%. Women with secondary education reported anxiety levels of 50%, while those with higher education reported approximately 46%.

Regarding procrastination, approximately 64% of the study group reported a significant degree of procrastination. Among men, around 62% reported significant procrastination, less than women, where over 66% reported it. By age group, those aged 18-25 reported significant procrastination at over 70%, those aged 26-35 at under 70%, and those aged 36-45 at under 55%.

In terms of education, individuals with secondary education reported significant procrastination at over 74%, more than those with higher education, who reported under 63%.

For urban participants, over 65% reported significant levels of procrastination, compared to around 61% for rural participants. For individuals from urban areas, over 65% reported significant levels of procrastination, compared to approximately 61% for those from rural areas.

Regarding professional occupation, students or individuals over 18 still in school reported significant procrastination at over 68%. Public sector employees reported procrastination levels under 53%, private sector employees under 65%, entrepreneurs over 61%, and freelancers over 82%.

In terms of marital status, unmarried individuals reported significant procrastination at over 69%, which is higher than both married individuals at over 55%, and divorced individuals at over 56%.

For men in the 18-25 age group, significant procrastination was reported by over 62%, those aged 26-35 reported over 74%, and those aged 36-45 reported under 53%.

Women in the 18-25 age group reported a significant level of procrastination at over 79%, more than those in the 26-35 group, with over 66%, and those in the 36-45 group, with just over 57%. Men with secondary education reported a significant level of procrastination at over 75%, while those with higher education reported over 58%. For women with secondary education, over 73% reported significant procrastination, and for those with higher education, it was just under 66%.

A statistical analysis was performed using SPSS version 26.0, and the results indicated a strong correlation ($r = 0.518$) between anxiety and procrastination across the entire study group. This correlation was also observed for both genders. In terms of age groups, a strong correlation between anxiety and procrastination was found in the 18-25 and 26-35 age groups, while a moderate correlation was found in the 36-45 group.

Among the 136 participants who reported clinically significant levels of anxiety, 90.44% reported procrastination ranging from mild to severe, compared to 48.11% of those without clinically significant anxiety. When considering only moderate to severe levels of procrastination, 80.88% of anxious individuals procrastinated, compared to 30.18% of those without significant anxiety.

A simple linear regression was conducted using SPSS, first setting anxiety as the dependent variable and procrastination as the predictor or independent variable, yielding a regression coefficient of 0.425. When the roles were reversed, with procrastination as the dependent

variable and anxiety as the predictor, the regression coefficient was 0.632. This suggests that anxiety has a stronger influence on procrastination than procrastination has on anxiety.

A gender-based linear regression was also conducted, setting procrastination as the dependent variable. For men, the regression coefficient was 0.724, while for women, it was 0.594. This indicates that anxiety influences procrastination more strongly in men than in women.

Findings and Conclusions

The results obtained from this study indicate a high positive correlation between anxiety and procrastination, with procrastination negatively influencing the professional performance of active individuals. Although the study shows a much higher incidence of anxiety among the population compared to official data (published by the Romanian Ministry of Health), the pattern persists, indicating that anxiety is more prevalent among women compared to men, with a considerable difference.

A decrease in the incidence of anxiety with advancing age has been observed, which confirms the findings from the study conducted by McDonald and his collaborators (McDonald et al., 2022). This trend of decreasing anxiety with age applies to both men and women. Aging brings with it rich and diverse life

experiences, reducing the number of vague, unpredictable, and uncontrollable dangers, thus lowering the chances of experiencing anxiety.

Contrary to findings in the literature (Hald, G.H. et al., 2020), the current study found that among divorced individuals, the incidence of anxiety is considerably lower (18.75%) than among single (44.64%) or married (29.59%) individuals. Given that the vast majority of divorced participants in the study are over 36 years old, these results can be attributed to life experience, decision-making, self-awareness, and self-management. Additionally, we do not know the duration since the divorce; in cases of a longer period, the effects of divorce may diminish.

According to the results obtained from this study, the majority of people procrastinate to some degree. Although the literature indicates that men are more prone to procrastination (Steel, 2007; Gröpel and Steel, 2008), the findings from this study show that procrastination is more prevalent among women (66.85%) than among men (62.18%), although the difference is small. A possible explanation for this is that, although anxiety influences the emergence of procrastination or the increase in its degree to a lesser extent in women, the significant difference in anxiety prevalence between women and men may contribute to the higher percentage of women reporting significant levels of procrastination.

The study shows that as individuals age, the percentage of those who procrastinate, to any degree, gradually decreases, confirming findings in the literature (Steel, 2007). The level of conscientiousness increases with age (Roberts, Walton & Viechtbauer, 2006), while younger individuals have lower self-control (Jurado & Rosselli, 2007; Reyna & Farley, 2006) and higher impulsivity, making the temptation of immediate rewards greater among younger individuals. All these factors influence the onset or exacerbation of procrastination, helping to explain why younger individuals procrastinate more than older individuals.

In line with the literature, the results of this study show that individuals with higher education have a lower degree of procrastination compared to those with medium education, confirming that better education helps reduce the degree of procrastination. The same alignment with the literature is observed regarding the environment of origin, with individuals from rural areas exhibiting a lower degree of procrastination than those from urban areas.

Regarding the professional classification of the participant group, a above-average incidence of procrastination was recorded among students (68.63%), but especially among freelancers (82.76%). While the explanation for students may be based on the fact that most of them are young, the high degree of procrastination among freelancers can be attributed to the lack of authority to hold them accountable, the degree of freedom they grant themselves, and the self-established work schedule, which often leaves room for task postponement. This was also highlighted by Ferrari and his collaborators in 2005.

The first objective of this study was to determine the level of correlation between procrastination and anxiety based on age group. In the three age groups analyzed, a high correlation was observed in the 18-25 age group ($r=0.502$) and the 26-35 age group ($r=0.541$), and a moderate correlation in the 36-45 age group ($r=0.402$). This slight difference may suggest that if a person is anxious, they are less likely to procrastinate compared to someone in the other two age groups.

The second objective aimed to determine the level of correlation between procrastination and anxiety based on the participants' gender. In the case of both genders, the level of correlation is high, with Pearson correlation coefficients being very close in value ($r=0.520$ for men, $r=0.524$ for women), indicating that there are no significant differences regarding the relationship between procrastination and anxiety based on gender. The third objective was to determine the existence of a correlation between procrastination and the professional performance of active individuals. The results show that the percentage of individuals who self-evaluate their professional performance as good or very good decreases as the level of procrastination increases, while the percentage who self-evaluate it as poor or very poor increases with higher levels of procrastination, confirming the findings in the literature (Steel, 2007). A small percentage of individuals with severe procrastination rated their professional performance as very good, which may be due to freelancers. We also observe a significant increase in the percentage of participants who self-evaluated their professional performance as acceptable, with the maximum level reached among those with

a high degree of procrastination (48.57%), slightly decreasing to those with a severe degree (44.44%). Thus, we can conclude that the degree of procrastination negatively influences the professional performance of the study participants.

Conclusion

The research hypothesis of the study was that the presence of anxiety leads to an increase in the degree of procrastination and a decrease in professional performance among active individuals. As we determined through simple linear regressions, anxiety influences the onset of procrastination or its increased degree. At the same time, we observed that an increase in the degree of procrastination leads to a decrease in professional performance among active individuals. When we correlate these two results, it follows that anxiety increases the degree of procrastination while simultaneously decreasing professional performance among active individuals, thereby confirming our research hypothesis.

Limitation

The distribution of the study group across age groups was uneven, with the first two groups being approximately equal in size, while the number decreased in the subsequent groups. An equal distribution in this regard would have been ideal.

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Authors data:

Marta-Iuliana VICOL, PhD, Lecturer university, „Petre Andrei” University of Iași Romania

E-mail: marta.vicol@yahoo.com

ORCID: 0009-0004-6004-730X

Cristina-Maria STOICA, PhD, Professor university, „Petre Andrei” University of Iași, Romania

ORCID: 0000-0002-6586-7444

Prezented on 28.09.2024